

Applicant : Vladimir Andreevich Bushuev
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c) Amendments to the Claims:

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)

Do 6. (New) A reactor for pyrolysis of hydrocarbons in a process of producing low-molecular olefins, comprising a bladed working wheel, a cascade of stationary blades and a hollow housing with an inlet nipple for supplying feedstock and with an outlet nipple for carrying-off cracked gas, wherein said working wheel and said cascade of stationary blades are located in said housing to form a ring-shaped vortex-flow cavity for recirculation of pyrolyzed gas, and wherein said inlet nipple and said outlet nipple are communicated with said cavity.

7. (New) A reactor for pyrolysis of hydrocarbons in a process of producing low-molecular olefins, comprising a bladed working wheel, two cascades of stationary blades and a hollow housing with an inlet nipple for supplying feedstock and with an outlet nipple for carrying-off cracked gas, wherein said working wheel and said cascades of stationary blades are located in said housing to form two ring-shaped vortex-flow cavities for recirculation of pyrolyzed gas, and wherein said inlet nipple and said outlet nipple are in communication with said two cavities.